

Claims:

1. A blade tensioner for applying tension to a chain, the blade tensioner comprising:

5 a blade shoe having a first face and an opposing second face, the first face having a chain sliding surface on which the chain is slid able;

10 at least two adjacent blade springs disposed on the second face of the blade shoe for applying a spring force to the blade shoe, the adjacent blade springs having surfaces contacting in sliding engagement; and

15 a friction surface provided between the contact surfaces of the adjacent blade springs having a coefficient of friction selected to provide sliding resistance therebetween effective to damp vibrations of the tensioner.

2. A blade tensioner in accordance with Claim 1, wherein the friction surface comprises a plate-like member extending in the length direction of the blade 20 springs and is provided independently from the blade springs.

3. A blade tensioner in accordance with Claim 1, wherein the friction surface comprises a plate-like 25 member extending in the length direction of the blade springs and attached to at least one blade spring through bonding or welding.

4. A blade tensioner in accordance with Claim 30 1, wherein the friction surface comprises a plurality of members extending in the length direction of the blade springs and attached to at least one blade spring through bonding or welding.

35 5. A blade tensioner in accordance with Claim 2, wherein bumpy surfaces are created on contact faces between the friction surface and at least one blade spring.

6. A blade tensioner in accordance with Claim  
3, wherein bumpy surfaces are created on contact faces  
between the friction surface and at least one blade spring.

5 7. A blade tensioner in accordance with Claim  
1, wherein the friction parts are configured using rubber,  
plastic, or friction paper.

10 8. A blade tensioner in accordance with Claim  
2, wherein the friction parts are configured using rubber,  
plastic, or friction paper.

15 9. A blade tensioner in accordance with Claim  
3, wherein the friction parts are configured using rubber,  
plastic, or friction paper.

10. A blade tensioner in accordance with Claim  
4, wherein the friction parts are configured using rubber,  
plastic, or friction paper.

20 11. A blade tensioner in accordance with Claim  
5, wherein the friction parts are configured using rubber,  
plastic, or friction paper.

25 12. A set of spring blades for urging a blade  
shoe against a chain to apply tension to the chain, the set  
of spring blades comprising:

a first blade spring having an upper and a lower  
planar surface;

30 a second blade spring having an upper and a lower  
planar surface disposed below the first blade spring, the  
lower planar surface of the first blade spring and the  
upper planar surface of the second blade spring in sliding  
engagement; and

35 a friction surface provided between the lower  
planar surface of the first blade spring and the upper  
planar surface of the second blade spring having a  
coefficient of friction selected to provide sliding

00000000000000000000000000000000

resistance therebetween effective to damp vibrations of the tensioner.

13. A set of blade springs according to Claim 12  
5 wherein the friction surface is formed on at least one of the blade springs.

14. A set of blade springs according to Claim 12  
wherein the friction surface comprises a friction plate  
10 disposed between the blade springs.

15. A set of blade springs according to Claim 14  
wherein the friction plate is attached to at least one of the blade springs.

15 16. A set of blade springs according to Claim 12  
wherein the friction surface comprises a plurality of transverse members disposed between the blade springs.

20 17. A set of blade springs according to Claim 16  
wherein at least one of the plurality of transverse members is attached to at least one of the blade springs.

25 18. A set of blade springs according to Claim 12  
wherein the blade shoe comprises a chain sliding face against which the chain is slidable, wherein the blade springs are disposed between slots formed on a face of the blade shoe opposite the chain sliding face.

30 19. A set of blade springs according to Claim 18  
wherein a base is provided for pivotably mounting a first end of the blade shoe.

35 20. A set of blade springs according to Claim 19  
wherein a second end of the blade shoe is freely slidably upon the base.

21. A method of applying tension to a chain with

a blade tensioner, the method comprising:

providing a base having a sliding surface formed thereon;

5 pivotably attaching a first portion of a blade shoe to the base, the blade shoe having a chain sliding face and an opposing face opposite the chain sliding face, the blade shoe having a second portion slidable upon the base sliding surface;

10 biasing the blade shoe against the chain with at least two adjacent blade springs disposed on the opposing face of the blade shoe, the adjacent blade springs having contact surfaces in sliding engagement;

15 damping vibrations of the tensioner with a friction surface provided between the contact surfaces of the adjacent blade springs providing a coefficient of friction therebetween.

22. A method of applying tension to a chain according to Claim 21, including forming the friction 20 surface on the contact surface of at least one of the adjacent blade springs.

23. A method of applying tension to a chain according to Claim 21, including forming the friction 25 surface on a friction plate disposed between the contact surfaces of the adjacent blade springs.

24. A method of applying tension to a chain according to Claim 23, including attaching the friction 30 plate to at least one of the contact surfaces of the adjacent blade springs.

25. A method of applying tension to a chain according to Claim 21, wherein the friction surface 35 comprises a plurality of transverse members disposed between the contact surfaces of the adjacent blade springs.

26. A method of applying tension to a chain

according to Claim 25, wherein at least one of the plurality of transverse members is attached to at least one of the contact surfaces of the adjacent blade springs.